What is claimed is:

1. In a feed forward amplifier that receives an input signal and amplifies the input signal to produce an amplified signal, wherein the feed forward amplifier determines an error signal based on the input signal and the amplified signal, wherein the feed forward amplifier amplifies the error signal to produce an amplified error signal, and wherein the amplified error signal comprises an error component and an error signal distortion component, an apparatus for correcting distortion in the amplified error signal comprising:

a control circuit that receives a portion of the error signal and produces a control signal based on the received portion of the error signal, wherein the control signal is capable of controlling an energy of a peak power of the error signal; and

wherein, by controlling the energy of the peak power of the error signal, the error signal distortion component can be reduced.

2. The apparatus of claim 1, wherein the control signal is capable of controlling an adjustment of an amplitude of the input signal and a phase of the input signal.

3. The apparatus of claim 1, wherein the control circuit further detects an energy of the portion of the error signal and produces the control signal based on the detected energy.

4. The apparatus of claim 3, wherein the control circuit comprises:

a power detector that detects an energy of a peak power of the error signal;

a controller coupled to the peak power detector that produces the control signal based on the detected energy; and

wherein the control signal is capable of controlling an adjustment of an amplitude of the input signal and a phase of the input signal.

5. The apparatus of claim 1, wherein the control circuit further receives a portion of the amplified error signal and produces an error distortion signal based on the received portion of the error signal and the received portion of the amplified error signal, wherein the error distortion signal comprises a distortion component of the received portion of the

amplified error signal, wherein the control circuit further quantifies the error distortion signal, and wherein the control circuit produces the control signal based on the quantified error distortion signal.

6. The apparatus of claim 5, wherein the control signal comprises a plurality of control signals, wherein the control circuit produces the error distortion signal by combining the received portion of the error signal with the received portion of the amplified error signal, wherein prior to combining the signals and based on a first control signal of the plurality of control signals, the control circuit adjusts an amplitude and a phase of the received portion of the error signal in order to facilitate a cancellation of an error component of the received portion of the amplified error signal, and wherein a second control signal of the plurality of control signals is capable of controlling an energy of a peak power of the error signal.

7. The apparatus of claim 1, wherein the control circuit comprises:

a gain and phase adjuster that receives the portion of the error signal, adjusts an amplitude and a phase of the portion of the error signal to produce an amplitude and phase adjusted portion of the error signal, and conveys the amplitude and phase adjusted portion of the error signal to a summation junction;

a summation junction coupled to the gain and phase adjuster that receives the amplitude and phase adjusted portion of the error signal, receives the portion of the amplified error signal, and combines the amplitude and phase adjusted portion of the error signal with the portion of the amplified error signal to partially cancel an error component of the received portion of the amplified error signal and to produce an error distortion signal comprising a distortion component of the received portion of the amplified error signal;

a distortion detector coupled to the summation junction that quantifies the error distortion signal; and

a controller coupled to the distortion detector that reads the quantified error distortion signal and produces the control signal based on the quantified error distortion signal.

8. The apparatus of claim 7, wherein the control signal comprises a plurality of control signals, wherein the controller conveys a first control signal of the plurality of control signals to the gain and phase adjuster, wherein, based on the first control signal, the gain and phase adjuster adjusts an amplitude of the portion of the error signal and a phase of the portion of the error signal based on the first control signal to facilitate a cancellation of an error component of the received portion of the amplified error signal, and wherein a second control signal of the plurality of control signals is capable of controlling an adjustment of an amplitude of the input signal and a phase of the input signal.

9. The apparatus of claim 7, further comprising a delay circuit interposed between the gain and phase adjuster and the summation junction that introduces a timing delay into the amplitude and phase adjusted portion of the error signal.

10. A communication device having a transmitter that comprises:

a main signal path that receives an input signal, samples the input signal to produce an attenuated input signal, conveys the attenuated input signal to a feed forward correction circuit, amplifies the input signal to produce an amplified signal that comprises a distortion component, samples the amplified signal to produce an attenuated amplified signal, and conveys the attenuated amplified signal to the feed forward correction circuit;

a feed forward correction circuit coupled to main signal path that receives the attenuated input signal and the attenuated amplified signal from the main signal path, produces an error signal based on the attenuated input signal and the attenuated amplified signal, amplifies the error signal to produce an amplified error signal that comprises an error component and a distortion component, samples the error signal to produce an attenuated error signal, and conveys the attenuated error signal to a control circuit;

a control circuit coupled to each of the main signal path and the feed forward correction circuit that receives the attenuated error signal from the feed forward correction circuit, produces a control signal based the attenuated error signal, and conveys the control signal to the main signal path; and

wherein, based on the control signal, the main signal path adjusts an amplitude and a phase of the input signal in order to control an energy of a peak power of the error signal and reduce the distortion component of the amplified error signal.

11. The communication device of claim 10, wherein the control circuit further detects an energy of the attenuated error signal and produces the control signal based on the detected energy.

12. The communication device of claim 11, wherein the control circuit comprises:

a power detector that detects an energy the attenuated error signal; and

a controller coupled to the peak power detector that produces the control signal based on the detected energy of the peak power of the of the portion of the error signal.

13. The communication device of claim 10, wherein the feed forward correction circuit further samples the amplified error signal to produce an attenuated amplified error signal and conveys the attenuated amplified error signal to the control circuit, wherein the control

circuit further receives the attenuated amplified error signal and produces an error distortion signal based on the attenuated error signal and the attenuated amplified error signal, wherein the error distortion signal comprises a distortion component of the attenuated amplified error signal, wherein the control circuit further quantifies the error distortion signal, and wherein the control circuit produces the control signal based on the quantified error distortion signal.

14. The communication device of claim 13, wherein the control signal comprises a plurality of control signals, wherein the control circuit produces the error amplifier distortion signal by combining the attenuated error signal with the attenuated amplified error signal, wherein prior to combining the signals and based on a first control signal of the plurality of control signals, the control circuit adjusts an amplitude and a phase of the attenuated error signal in order to facilitate a cancellation of an error component of the attenuated amplified error signal, and wherein the control circuit conveys a second control signal of the plurality of control signals to the main signal path.

15. The communication device of claim 13, wherein the feed forward correction circuit conveys a portion of the amplified error signal to the control circuit and wherein the control circuit comprises:

a gain and phase adjuster that receives the attenuated error signal and adjusts an amplitude and a phase of the attenuated error signal to produce an amplitude and phase adjusted attenuated error signal;

a summation junction coupled to the gain and phase adjuster that receives the amplitude and phase adjusted attenuated error signal, receives the attenuated amplified error signal, combines the amplitude and phase adjusted attenuated error signal with the attenuated amplified error signal to produce the error distortion signal;

a distortion detector coupled to the summation junction that quantifies the error distortion signal; and

a controller coupled to the distortion detector that reads the quantified error distortion signal and produces the control signal based on the quantified error distortion signal.

16. The communication device of claim 15, wherein the control signal comprises a plurality of control signals, wherein the controller conveys a first control signal of the plurality of control signals to the gain and phase adjuster, wherein, based on the first control signal, the gain and phase adjuster adjusts an amplitude of the attenuated error signal and a phase of the attenuated error signal in order to facilitate a cancellation of an error component of the attenuated amplified error signal, and wherein the controller conveys a second control signal of the plurality of control signals to the main signal path.

17. The communication device of claim 13, further comprising a delay circuit interposed between the gain and phase adjuster and the summation junction that introduces a timing delay into the amplitude and phase adjusted portion of the error signal.

18. A method for reducing distortion in a transmitter having a feed forward amplifier, wherein the feed forward amplifier amplifies an input signal to produce an amplified signal, the method comprising steps of:

sampling the input signal to produce an attenuated input signal;

sampling the amplified signal to produce an attenuated amplified signal;

combining the attenuated input signal with the attenuated amplified signal to produce an error signal;

producing a control signal based on the error signal, wherein the control signal is capable of controlling an energy of the peak power of the error signal; and

wherein the error signal is amplified to produce an amplified error signal that comprises an error component and a distortion component and wherein, by controlling an energy of the peak power of the error signal, the distortion component of the amplified error signal can be minimized by controlling an energy of the peak power of the error signal.

19. The method of claim 18, wherein the step of producing a control signal comprises steps of:

sampling the error signal to produce an attenuated error signal;

detecting an energy of the attenuated error signal; and

producing a control signal based on the detected energy.

20. The method of claim 18, further comprising a step of adjusting an amplitude and a phase of the input signal based on the control signal.

21. The communication device of claim 20, wherein the step of producing a control signal based on an error signal comprises steps of:

amplifying the error signal to produce an amplified error signal;

sampling the amplified error signal to produce an attenuated amplified error signal;

producing an error distortion signal based on the attenuated error signal and the attenuated amplified error signal, wherein the error distortion signal comprises a distortion component of the attenuated amplified error signal;

quantifying the error distortion signal; and

wherein the control circuit produces the control signal based on the quantified error distortion signal.

22. The communication device of claim 21, wherein the control signal comprises a plurality of control signals, wherein the step of producing an error distortion signal comprises a step of combining the attenuated error signal with the attenuated amplified error signal to produce the error amplifier distortion signal, wherein the method further comprises a step of, prior to combining the signals and based on a first control signal of the plurality of control signals, adjusting an amplitude and a phase of the attenuated error signal in order to facilitate a cancellation of an error component of the attenuated amplified error signal, and wherein the step of adjusting an amplitude and a phase of the input signal based on the control signal comprises a step of adjusting an amplitude and a phase of the input signal based on second control signal of the plurality of control signals.

23. A method for reducing distortion in a transmitter having a feed forward amplifier comprising steps of:

receiving an input signal;

amplifying the input signal to produce an amplified signal;

determining an error signal based on the input signal and the amplified signal;

amplifying the error signal to produce an amplified error signal, wherein the amplified error signal comprises an error component and a distortion component; and

producing a control signal based on the distortion component of the amplified error signal, wherein the control signal is capable of reducing distortion in the transmitter.

24. The method of claim 23, wherein the step of determining an error signal based on the input signal and the amplified signal comprises steps of:

sampling the input signal to produce an attenuated input signal;

sampling the amplified signal to produce an attenuated amplified signal; and

combining the attenuated input signal with the attenuated amplified signal to produce the error signal.

25. The method of claim 23, wherein the step of producing a control signal comprises steps of:

sampling the error signal to produce an attenuated error signal;

sampling the amplified error signal to produce an attenuated amplified error signal;

combining the attenuated error signal with the attenuated amplified error signal to produce an error distortion signal comprising a distortion component of the attenuated amplified error signal; and

producing a control signal based on the error distortion signal, wherein the control signal is capable of reducing distortion in the transmitter.